

1.3 Site Background and History

The solar salt industry in San Francisco Bay began in the middle 1850s. The first operations were simple levees built around naturally occurring salt pans in Alameda County to increase their capacity. They were small family enterprises that used intensive hand labor for production and harvest. Nearly all of the salt produced in San Francisco Bay during this era was shipped to Nevada to be used for the processing of silver ore. By the late 1800s, an estimated 37 salt production facilities had been established throughout the South Bay. Most of these facilities were constructed by diking tidal marshes (BCDC, 1994, p. 19). The diked marshes were fitted with operator-controlled intake structures to capture seawater during high tides. The Baumberg ponds first came into production in the late 1800s. The Alviso ponds came into production in 1929.

By the early 1900s, the quality of the salt produced in San Francisco Bay had increased significantly, and the market expanded to include fine or “table” salt. In 1936, the Leslie Salt Company was created from the consolidation of 19 small operations. Following this consolidation, only Leslie and Oliver salt companies remained. Oliver, located at the foot of the Hayward-San Mateo Bridge, ceased to operate in the 1970s. In 1979, Cargill bought Leslie and is now is the only solar salt producer in San Francisco Bay (BCDC, 1994, p. 19).

Salt production involves a sequence of ponds through which seawater is progressively cycled to concentrate and ultimately precipitate salt. Salt production takes approximately five years from the time that the water enters the system from San Francisco Bay until the salt is harvested. The salt production process begins as high tide brings baywater into the initial or intake pond, the first in a series of ponds called evaporator or concentrator ponds. Evaporator ponds range in size from less than 100 acres to more than 850 acres.

The ponds are separated by earthen levees – some constructed more than a century ago – and are interconnected with siphons and gates. Through natural evaporation, water is drawn out, creating increasingly saline brine. As brine flows to the next evaporator pond, it becomes increasingly concentrated with salt. When fully saturated, the brine is pumped into the pickle ponds for storage before it is crystallized and harvested. For the most part, Cargill Salt uses gravity to transfer brines from one pond to the next by taking advantage of differences in hydraulic head. When siphons or gates are open, differences of less than a few inches in surface elevation or “hydraulic head” between two ponds will result in a net flow of brine from one pond to the next until the water surfaces are equal in elevation. The pickle pond solution is then pumped into crystallizer beds to undergo final evaporation, resulting in the precipitation of salt crystals.

After a layer of salt approximately 5 to 8 inches thick has formed on the bottom of the crystallizer ponds, the remaining solution, called bittern is pumped into the desalting pond where additional sodium chloride is removed and then to the bittern pond for storage. Bittern contains highly concentrated magnesium, potassium, bromine and sulfate. Salts are mechanically harvested from the crystallizer beds and transported to the wash house by truck and then by conveyer to the salt stack. In the final stage of production, the raw salt will be sent to the refinery at Newark for further processing, packaging and shipping to customers. The Newark plant produces about 650,000 tons of salt per year. All of the ponds included in the ISP are concentrator ponds. No crystallizer ponds were included in the land transfer.

About 200 miles of pond levees separate the individual ponds and isolate salt production facilities from the bay. Levees require periodic maintenance to prevent failure from erosion, subsidence and consolidation. Currently approximately 10 miles of levees are maintained each year. Levee maintenance consists of excavating mud from salt pond borrow ditches and placing it on levees using a floating dredge.

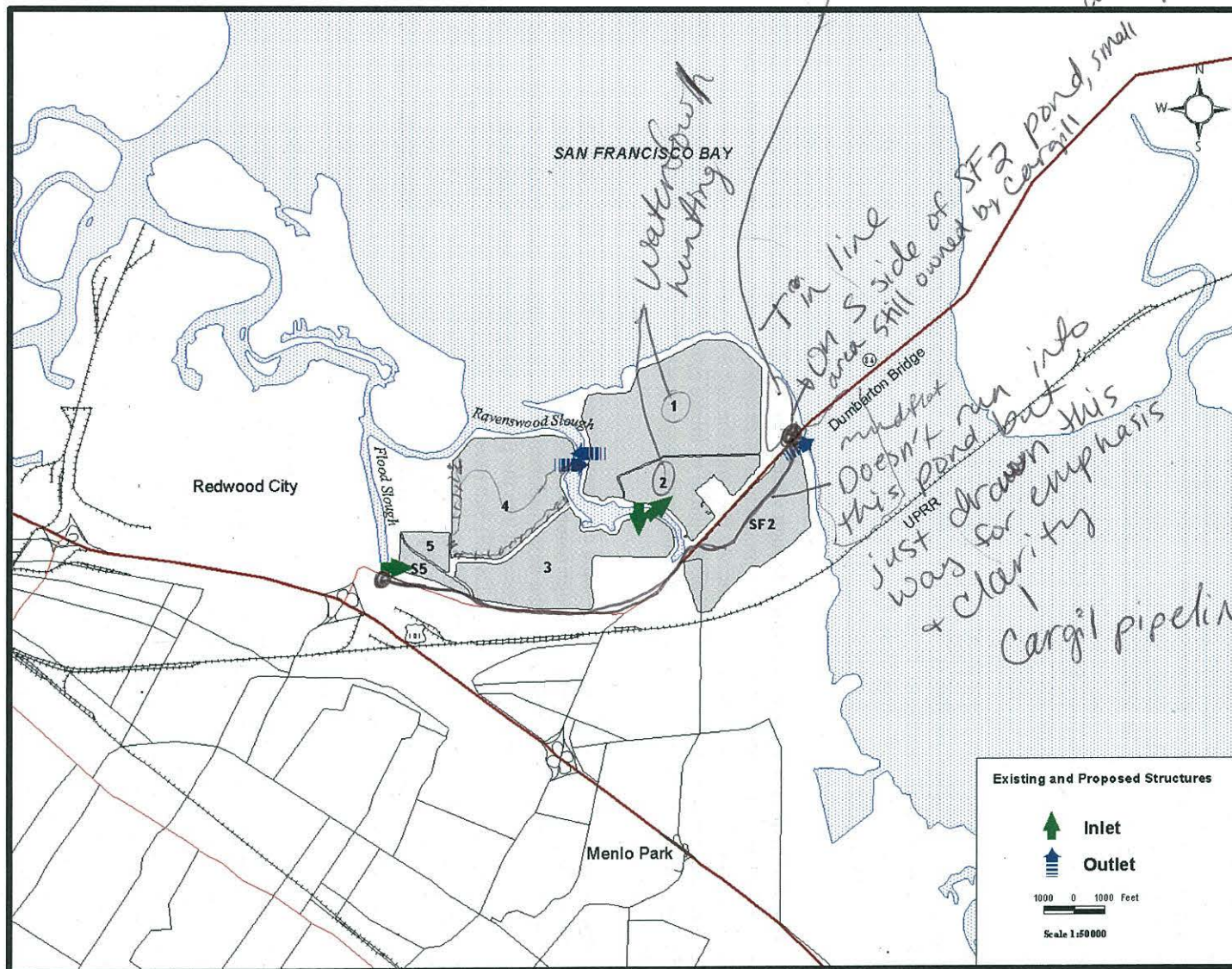


Figure 1-4
Map of West Bay Pond Complex



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

Kerry L. McGrath
Hunton and Williams LLP
2200 Pennsylvania Avenue, NW
Washington, DC 20037

OCT 21 2015

Re: Freedom of Information Act Request No. EPA-R9-2015-011007, Request to Extend the Deadline of the FOIA Response

Dear Ms. McGrath:

This letter concerns the above-referenced Freedom of Information Act (FOIA) request, received by the U.S. Environmental Protection Agency (EPA or Agency) on September 22, 2015, in which you requested copies of any responsive documents related to the DMB Redwood City Salt Plant (a.k.a. DMB Redwood City Saltworks project, Redwood City Saltworks project site, Redwood City salt production facilities, or any reference to Cargill operated facilities in Redwood City) in San Mateo County, California, since June 12, 2015. On October 20, 2015, EPA contacted you via phone to request an extension of time to respond to your request, which you denied.

Given the scope of the request, EPA anticipates that pursuant to 40 C.F.R. § 2.104(d), at least a ten-day extension is necessary because my office must collect the requested records from multiple EPA offices that are separate from the office processing the request and may need to consult with the U.S. Army Corps of Engineers concerning those records. EPA expects to respond to your request on or before November 2, 2015, but may need until November 16, 2015 to complete the response.

EPA has initiated the coordination of and search for responsive records in our files. Because of this broad scope, it is difficult to predict with certainty how many records may be involved. Nonetheless, at this time, EPA estimates the Agency will be able to complete this request by November 16, 2015. If we can respond sooner, we will let you know.

If you would like to modify or narrow your request so that it may be processed sooner, please contact Jennifer Siu, who can be reached at 415-942-3983, or Rich Campbell in our Office of Regional Counsel at 415-972-3870 or campbell.rich@epa.gov. In addition, you may contact the EPA FOIA Public Liaison at 202-566-1659 to assist with this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Tomas Torres".

Tomas Torres
EPA Region 9 Water Division Director

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9/14/15 Draft

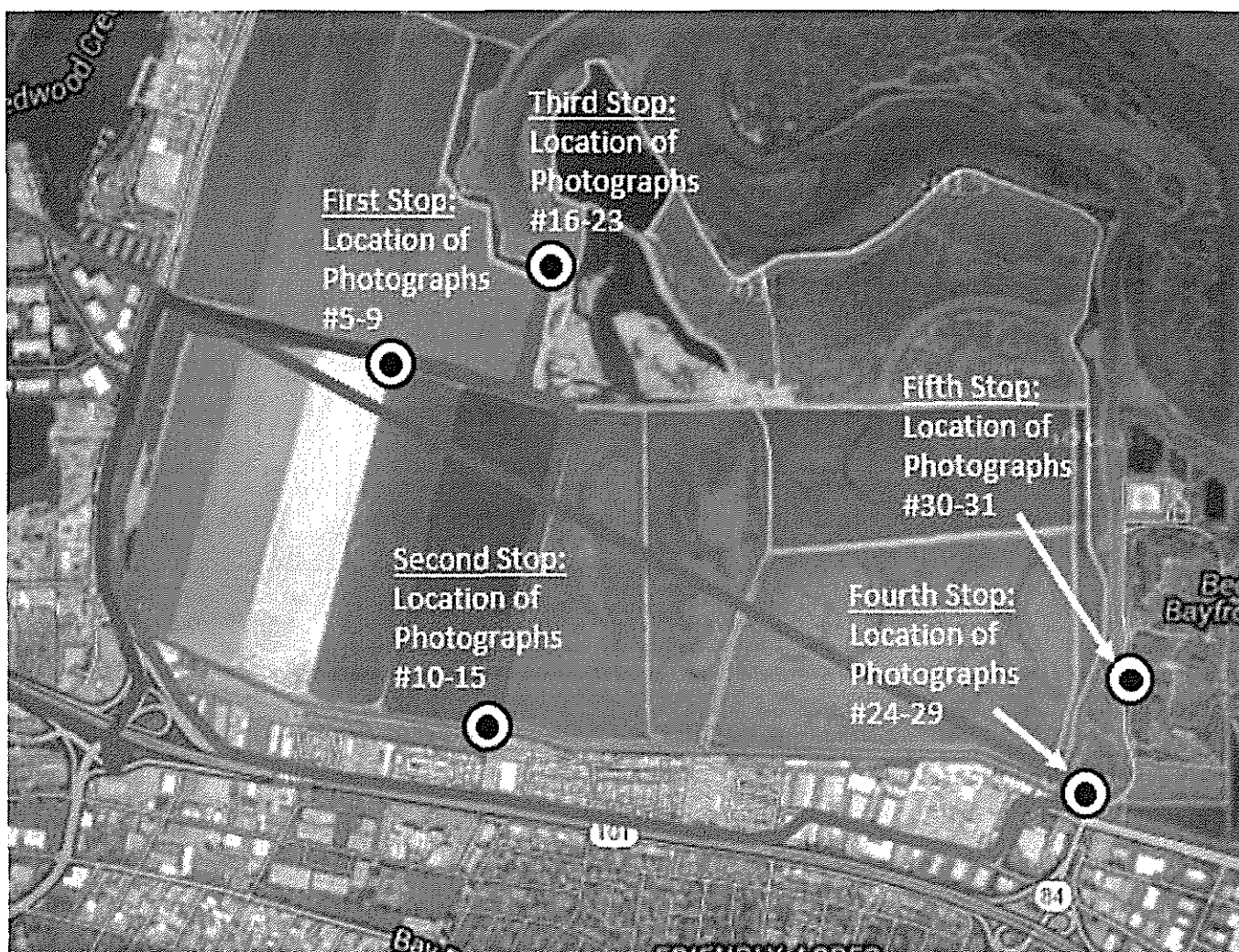
Towill Revised Estimate

Task	Estimated Cost
Task A: Map MHW at 2015 (using 2010 Lidar data) - Determine tidal datums for NTDE83-01 - Field survey to geodetic and tidal bms, ground QC for Lidar, and perhaps Lidar basepoints - Obtain existing lidar data, review - Calculate MHW for 2015, drape onto current lidar data set, prepare basic CADD/GIS - Provide report with control network, tidal datum statements, Lidar review and Lidar QC	\$58,000
TASK B: Obtain and convert tidal datums at pre-1900, 1940, 1972 - Determine tidal datums at listed dates except current epoch - Convert all to NAVD88/NGVD29 - Research and determination of ground subsidence and sea level rise corrections - Calculate mhw at all dates, drape onto current lidar data set in GIS - Add to report	\$21,300
TASK C: Perform research for historic shorelines and georeference - Obtain records with shoreline evidence from pre-1900, 1940 and 1972 - Determine apparent MHW at or before said dates - Map shoreline data onto existing lidar data - Calculate Record Boundary - Perform minimal field ties to orient boundary - Update report and provide statement of opinion about littoral land law	\$48,500
TASK D: Perform onsite field surveys of utilities, levee cross sections, ponds etc. - Meet onsite to visit structures of interest and verify actual survey measurement locations - Field survey to measure various features - budgetary - actual amount tbd at time of work - Reduce field work, prepare photo docs, add to GIS - Update report with statement of work - Update report with exhibits and photodocumentation NOTE: field work does not include boatwork.	\$49,200
TASK E: Daily rate for field surveys which require a boat (Kayak) - Work coordination and Safety Plan - 3 Man field survey crew - Jonboat with GPS RTK and single beam fathometer (\$175 per day) - Data reduction and exhibit preparation NOTE: If work can be done with a Kayak, reduce price by \$880 less (two man crew vs. three includes mileage)	\$6,700
TASK F: Daily rate for meetings and misc followup support	\$1,800
Total	\$185,200

This is a Privileged and Confidential document prepared at the direction of EPA counsel for internal illustration or discussion purposes only. This is a draft document based on preliminary information and is subject to change.

FOG → Prior to field work, may be training internally + w/ contractor
 - OAHWM signature during precip (Jan)





CWA Jurisdiction Criteria	Analysis	Evidence	Tasked	First Draft Due	Revised Draft Due	Final Version Due
TNW “(a)(1) WATERS”	Past Use of Waters in Interstate or Foreign Commerce	History of the Site and Adjacent Locations: 1. Specify adjacent locations (<i>see Corps FOIA docs of 9/11</i>) 2. Past commercial use, as evidenced by: (a) Use of vessels in trade, including canoes and other small vessels used for <u>fur trading</u> <i>ships for brine shrimp?</i> (b) Personal use by boats which demonstrate the availability of the water for <u>simpler types</u> of commercial navigation (c) Hauling of animals and other water-borne freight	RL RL SFEI?	<i>✓</i> 10/15 11/24		12/11
	Current Use of Waters in Interstate or Foreign Commerce	Analyze use of <u>The Mallard</u> Review Site O&M permits → ORC files - JS <i>• Talk to Brett @ permit list</i>	RL BPM	<i>✓</i> 10/15 <i>✓</i> 10/30	11/15	11/15

	Future Use - Susceptibility of Waters to Use in Interstate or Foreign Commerce <i>Feasible access pts & rec opportunities appropriate for land size - Master Plans?</i>	Current Conditions Potential for navigation; features that could attract commercial use under existing conditions (e.g., birding)	RL; ORC	10/15	11/15	11/30
		With Reasonable Improvements JS 1. Identify specific reasonable improvements (e.g., breaching levees, restoring navigable sloughs and adjacent marshes) 2. Assess feasibility (cost?) of improvements 3. Assess potential navigable uses, including recreation 4. Salt pond / wetland restoration projects around SF Bay 5. Collect information - <u>BCDC maps, visitor usage at Bay refuges</u> 6. General effect of sea level rise <u>BCDC Report</u> 7. Legal analysis	RL; ERG?	10/15	11/15	12/11
			ORC	11/15	11/30	12/11
	Ebb and Flow of the Tide	Determine Current Water and Land Elevations 1. Tidal Elevations: - Mean High Water (MHW) - Mean Higher High Water (MHHW) - High Tide Line (HTL) 2. Pond Substrate Elevations / LIDAR verification 3. Delineate <u>"fastland" areas</u> 4. GIS and depictions of waters and lands	ERG and sub	10/26	11/15	11/30
		Determine Past Water and Land Elevations (~1900, 1940, 1972?) 1. Tidal Elevations: - Mean High Water (MHW) - Mean Higher High Water (MHHW)	ERG and sub; (SFEI)	10/26	11/15	11/30

		<p>- High Tide Line (HTL)</p> <p>2. Pond Substrate Elevations</p> <p>3. Areas of Fastlands</p> <p>✓ 4. Review ERDC memo and Josselyn analysis (2012)</p> <p>5. GIS and depictions of waters and lands</p> <p>Legal Analysis</p> <p>Tidal elevation rationale</p> <p>Confer with OGC</p>	BPM ORC/ OGC	10/15 10/30		11/15 11/15
ADJACENT WATERS “(a)(6) WATERS”	Waters wholly or partially within 1,500’ of the HTL	<p>1. Identify HTL along outer levees</p> <p>2. Measure 1500’ distance from HTL of outer levees;</p> <p>3. Determine whether western border channel (Flood Slough) is tidal.</p> <p>4. Hydrologic connections between cells.</p> <p>5. Maps/map overlays</p> <p>6. Address whether any cells are a structure other than a “water.”</p>	<p>(1) RL, ERG</p> <p>(2) RL, ERG</p> <p>(3) RL, ERG</p> <p>(4) RL</p> <p>(5) RL</p> <p>(6) RL, ERG, ORC</p>	<p>10/30</p> <p>10/30</p> <p>10/30</p> <p>10/30</p> <p>10/30</p> <p>10/30</p>	<p>11/15</p> <p>11/15</p> <p>11/15</p> <p>11/15</p> <p>11/15</p> <p>11/15</p>	<p>11/30</p> <p>11/30</p> <p>11/30</p> <p>11/30</p> <p>11/30</p> <p>11/30</p>
	Waters wholly or partially within 100’ of Tributary OHWM	<p>Evaluate additional ponds within 100’ of Redwood City west edge channel OHWM [and Flood Slough, if not tidal?] *</p> <p>1. Determine jurisdictional status of the channel[s]</p> <p>2. Measure 100’ distance from OHWM of channel[s]</p> <p>* These tasks covered by sig nex analysis of the same waters.</p>	<p>(1) ORC, RL, ERG</p> <p>(2) RL, ERG</p>	<p>10/15</p> <p>10/30</p>		
	Adjacent wetlands	Evaluate Josselyn wetlands analysis; field verification	RL; ERG	10/30	11/15	11/30

IMPOUNDMENTS “(a)(4) WATERS”	JS	1. Delineate historically navigable sloughs	(1) ERG	10/30	11/15	11/30
		2. Determine plumbing of Site (culverts, tidal gates, closed and temporary connections)	(2) ERG; RL	10/30	11/15	11/30
		3. Research similar sites (e.g., San Diego salt ponds)	(3) RL; ORC	10/30	11/15	11/30
		4. Review Site O&M documents	(4) ORC	10/30	11/15	11/30
		5. Obtain and review BCDC historical documents - <i>Development permits for levees & Pipelines</i>	(5) JB; RL	10/15	11/15	11/30
		6. Identify and delineate ponds impounding historically navigable sloughs [subject to legal analysis] <i>RHA</i>	(6) RL; ERG	10/15	11/15	11/30
OTHER WATERS “(a)(8) WATERS” and <i>Rapanos</i>	4000' Significant Nexus Analysis* (* <i>Rapanos</i> analysis, as limited by CWR)	Evaluate Significant Nexus of ponds within 4,000' of SF Bay HTL				
		1. Measure 4000' distance from HTL of outer levees	(1) RL, ERG	10/30	11/15	11/30
		2. Biological nexus (e.g., birds, vegetation)	(2) RL	10/15	11/15	12/11
		3. Chemical nexus (e.g., nitrogen transfer; water exchange)	(3) RL	10/15	11/15	12/11
		4. Identify similarly situated waters and JDs (Bay salt ponds / restoration sites (e.g., Napa))	(4) RL	10/15	11/15	12/11
		5. Review <u>USFWS files re salt ponds</u>	(5) RL	11/15	11/30	12/11
		6. Contact Coastal Conservancy	(6) MS / RL			
	100' Significant Nexus Analysis*	Evaluate additional ponds within 100' of Redwood City west edge channel OHWM [and Flood Slough, if not tidal?]				
		1. Determine jurisdictional status of channel[s]	(1) ORC, RL	10/15		10/30
		2. Measure 100' distance from OHWM of channel[s]	(2) RL, ERG	10/30	11/15	11/30
		3. Biological nexus	(3) RL	10/15	11/15	12/11
		4. Chemical nexus	(4) RL	10/15	11/15	12/11
		5. Identify similarly situated waters and JDs	(5) RL	10/15	11/15	12/11

LOSS OF JURISDICTION	Authorized Fill and Surrender of Waters in Unmistakable Terms	Legal Analysis for Western Section of the Site: 1. Review 1940 / 1947 Corps permits, other info 2. Review other Corps determinations (e.g., 2002 Westpoint Marina permit file, Leslie Salt/Cargill maintenance permits) 3. Review case law and Corps RHA surrender analyses 4. Locate other Corps surrender determinations 4. Confer with OGC	BPM	10/15	11/15	12/5
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